

REPPERGER RESEARCH INTERN PROGRAM

RESEARCH PROJECT #: AFRL-RHB-23-09

Advancement of Wearable Biosensors for Human Health and Performance Sensing

PROJECT DESCRIPTION: Microelectronic and biosensor advancements have led to wearable sensors flooding the market, however, their accuracy and the data they provide may not be useful to the USAF/SF. The summer intern will conduct research to understand the current technical climate of wearable sensors/biosensors, and then play a role in advancing biofluid collection, microsensor fabrication, and to create an electrochemical aptamer-based biosensor for a specific human health and performance biomarker from the extracted fluid.

ACADEMIC LEVEL: Bachelor's, Master's

DISCIPLINE NEEDED:

- Biology
- Biochemistry
- Engineering

RESEARCH LOCATION: Wright-Patterson Air Force Base, Dayton, Ohio

RESEARCH MENTOR: Trevor Tilly, PhD
Environmental Engineering, University of Florida, 2020



Dr. Trevor Tilly is an aerosol scientist and Research Engineer at the Airman Systems Directorate, 711th Human Performance Wing, Air Force Research Laboratory, Wright-Patterson Air Force Base, Ohio. Dr. Tilly was a recipient of the Science, Math, and Research for Transformation (SMART) Scholarship, and is currently focused on advancing electrochemical aptamer-based sensors to wearables and field deployable health and human performance monitors.
Photo courtesy of the U.S. Air Force Research Laboratory.